Chapter 08.   Parabola, Ellipse and Hyperbola

1)   If the conic is a parabola then the value of eccentricity is

A) 0
B) 1
C) less than 1
D) greater than 1
Answer: B

2)   If e = 1 then the conic is a

A) Circle
B) Parabola
C) Ellipse
D) Hyperbola
Answer: B

3)   If e < 1 then the conic is

A) a circle
B) a parabola
C) an ellipse
D) a hyperbola
Answer: C

4)   If e > 1 then the conic is

A) a circle
B) a parabola
C) an ellipse
D) a hyperbola
Answer: D

5)   Locus of points in a plane, the distance of each of which from a fixed point is equal to its distance from a fixed straight line in the plane is called

A) a circle
B) a parabola
C) an ellipse
D) a hyperbola
Answer: B

6)   Locus of points in a plane, the distance of each of which from a fixed point is less than its distance from a fixed line in the plane is called

A) a circle
B) a parabola
C) an ellipse
D) a hyperbola
Answer: C

7)   Locus of points in a plane, the distance of each of which from a fixed point is greater than its distance from a fixed line in the plane is called

A) a circle
B) a parabola
C) an ellipse
D) a hyperbola
Answer: D

8)   the vertex of the parabola $y^2 = -8x$ is

A) (-2, 0)
B) (2, 0)
C) (0, 0)
D) (0, -2)
Answer: C

9)   The axis of the parabola $x^2 = -4y$ is

A) x-axis
B) y-axis
C) x and y-axis
D) none of these
Answer: B

10)   The equation of the axis of the parabola $y^2 = 16x$ is

A) $x - y = 0$
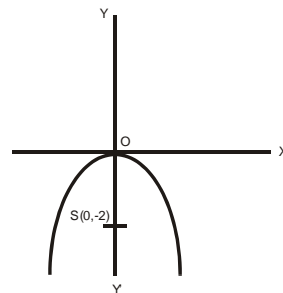B) $x + y = 0$
C) $x = 0$
D) $y = 0$
Answer: D

11)   The equation of the latus rectum of the parabola $y^2 = -16x$ is

A) $x = 4$
B) $y = -4$
C) $y - 4 = 0$
D) $x + 4 = 0$
Answer: D
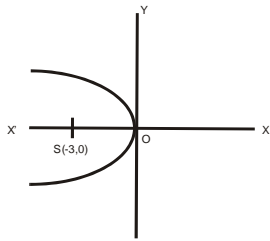
12)   the equation of the parabola given in the figure is

A) $x^2 + 8y = 0$
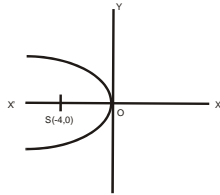B) $y^2 = -8x$
C) $y^2 = 8y$
D) $x^2 = 8y$
Answer: A

13)   the length of the latus rectum of the parabola given in the figure is
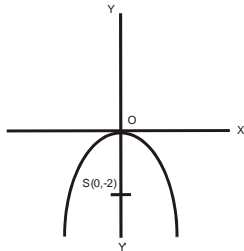
A) 3
B) – 12
C) 6
D) 12

Answer: D

14) The equation of the parabola given in the figure is

A) $x^2 = -16y$
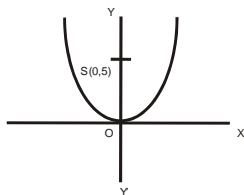B) $x^2 = 16y$
C) $y^2 = -16x$
D) $y^2 = 16x$

Answer: C

15) The length of the latus rectum of parabola given in the figure is

A) 4
B) 8
C) 2
D) –8

Answer: B

16) the equation of the latus rectum of the parabola given in the figure is

A) x = 5
B) y –5 = 0
C) x = -5

D) y = -5

Answer: B

17) The coordinates of the focus of the parabola $(x – 3)^2 = 4(y – 2)$ is

A) (0, 3)
B) (0, 2)
C) (3, 3)
D) (3, 2)

Answer: C

18) The coordinates of the vertex of the parabola $(x – 5)^2 = 4(y – 4)$ is

A) (0, 5)
B) (0, 4)
C) (4, 5)
D) (5, 4)

Answer: D

19) The equation of the axis of the parabola $(x – 3)^2 = 2(y + 4)$ is
A) x = -3
B) x – 3 = 0
C) y + 4 = 0
D) y = 4

Answer: B

20) The equation of the Directrix of the parabola $(x – 3)^2 = 4(y – 2)$ is

A) x = 1
B) y = 2
C) y – 1= 0
D) y = -1

Answer: C

21) The equation of the latus rectum of the parabola $(x +1)^2 = 4(y – 2)$ is

A) y – 3 = 0
B) y = -3
C) x = 3
D) x = -3

Answer: A

22) the equation of the tangent at the vertex of the parabola $(x + 3)^2 = 4(y – 2)$ is

A) x = -3
B) y = 0
C) y – 2 = 0
D) y = -2

Answer: C

23) The coordinates of the vertex of the parabola $(y – 3)^2 = 4(x – 1)$ is

A) (0, 0)
B) (3, 1)
C) (1, 3)
D) (-3, -1)

Answer: C

24) The equation of the circle whose diameter is the latus rectum of the parabola $x^2 = 4y$ is

A) $(x-2)^2 + (y-1)^2 = 4$
B) $x^2 + (y-1)^2 = 2$
C) $x^2 + (y+1)^2 = 4$
D) $x^2 + (y-1)^2 = 4$

Answer: D

25) In the ellipse $\dfrac{x^2}{4} + \dfrac{y^2}{9} = 1$ the length of the major axis is

A) 3
B) 2
C) 6
D) 9

Answer: C

26) In the ellipse $\dfrac{x^2}{9} + \dfrac{y^2}{16} = 1$ the length of minor axis is

A) 3
B) 6
C) 9
D) 4

Answer: B

27) In an ellipse the mid point of the major axis is called
A) The center of the ellipse
B) Focus of the ellipse
C) Vertex of the ellipse
D) Second focus

Answer: A

28) The curve of the parabola $y^2 = 4ax$ is symmetrical with respect to

A) Origin
B) X-axis
C) Y-axis
D) Both the axis

Answer: B

29) The curve of the ellipse $\dfrac{x^2}{9} + \dfrac{y^2}{4} = 1$ is symmetrical about

A) the x-axis
B) the y –axis
C) the origin
D) all A, B, C are true

Answer: D

30) In the ellipse $\dfrac{x^2}{8} + \dfrac{y^2}{6} = 1$, the value of eccentricity is

A) $\dfrac{1}{3}$

B) $\dfrac{2}{3}$

C) $\dfrac{3}{2}$

D) $\dfrac{1}{2}$

Answer: D

31) If one of the foci of an ellipse is S(1, 0), then the distance between the two foci is (center of the ellipse lies at the origin)

A) 3
B) 2
C) 4
D) $\sqrt{2}$

Answer: B